

Individual Assessment

Student Name _____

Basic Addition and Subtraction Facts: Focus on Taking Numbers Apart

Assessment Task: In this assessment, the child determines the missing part of a number when shown one part. The teacher begins with a pratically number of counters (up to ten). The teacher then hides some of the counters and shows the child the rest and asks the child to determine how many are hiding. This is repeated several times with the teacher hiding a different number of counters each time.

Concepts: Subtraction, Missing Addends, Partitioning Numbers

Assessment Procedures	Date of Observation_____	Date of Observation_____	Date of Observation_____
<p>Ask the child to hand you five counters.</p> <p>Hide some of them in one hand and show the child the remaining counters in the other hand. Ask “How many are hiding?”</p> <p>Change the number of counters hidden and ask again, “Now, how many are hiding?”</p> <p>Repeat for several combinations for that number.</p>	<p>Number_____</p> <p>___Makes no response or says “I don’t know.”</p> <p>___Says an unreasonable number.</p> <p>___Tells a number that is close but inaccurate.</p> <p>___Knows quickly and confidently.</p>	<p>Number_____</p> <p>___Makes no response or says “I don’t know.”</p> <p>___Says an unreasonable number.</p> <p>___Tells a number that is close but inaccurate.</p> <p>___Knows quickly and confidently.</p>	<p>Number_____</p> <p>___Makes no response or says “I don’t know.”</p> <p>___Says an unreasonable number.</p> <p>___Tells a number that is close but inaccurate.</p> <p>___Knows quickly and confidently.</p>
<p>If the child is successful with five, check larger numbers in the same way. If the child is unsuccessful with five, check smaller numbers.</p>	<p>Number_____</p> <p>___Makes no response or says “I don’t know.”</p> <p>___Says an unreasonable number.</p> <p>___Tells a number that is close but inaccurate.</p> <p>___Knows quickly and confidently.</p>	<p>Number_____</p> <p>___Makes no response or says “I don’t know.”</p> <p>___Says an unreasonable number.</p> <p>___Tells a number that is close but inaccurate.</p> <p>___Knows quickly and confidently.</p>	<p>Number_____</p> <p>___Makes no response or says “I don’t know.”</p> <p>___Says an unreasonable number.</p> <p>___Tells a number that is close but inaccurate.</p> <p>___Knows quickly and confidently.</p>

$$3 + 4 = 7$$

$$7 - 4 = 3$$

$$4 - 7 = 3$$

Cognitively Guided Instruction Problem Types

Problem type	Result unknown	Change unknown	Start unknown
Join	Raquel had 5 books. Jaime gave her 2 more books. How many does Raquel have now?	The table has 4 children. How many more children can come to the table to have 6 children there?	Raquel had some crayons. Jaime gave her 2 more crayons. Now she has 7 crayons. How many did she have to start with?
Separate	Eight children were sitting on the rug. Three children go back to their desks. How many children remain on the rug?	Six children were in line to get a drink. Some finished and went back to their seats. Now there are four in line. How many finished?	Raquel had some books. She gave 5 to Jaime. Now she has 2 books left. How many books did Raquel have to start with?
Compare	Jaime has 5 books. Raquel has 2 more than Jaime. How many books does Raquel have?	Raquel has 7 books. Jaime has 5 books. How many more books does Raquel have than Jaime?	Raquel has 7 books. She has 5 more books than Jaime does. How many books does Jaime have?
Part-part-whole	Raquel has 5 big books and 2 small books. How many books does she have?		Raquel has 7 books. Five are big books and the rest are small books. How many small books does she have?

Source: Carpenter, Thomas; Fennema, Elizabeth; *Children's Mathematics Cognitively Guided Instruction*, 1999.

TM-+-a

Addition Table

PLUS	0	1	2	3	4	5	6	7	8	9	10
0	0+0	0+1	0+2	0+3	0+4	0+5	0+6	0+7	0+8	0+9	0+10
1	1+0	1+1	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+9	1+10
2	2+0	2+1	2+2	2+3	2+4	2+5	2+6	2+7	2+8	2+9	2+10
3	3+0	3+1	3+2	3+3	3+4	3+5	3+6	3+7	3+8	3+9	3+10
4	4+0	4+1	4+2	4+3	4+4	4+5	4+6	4+7	4+8	4+9	4+10
5	5+0	5+1	5+2	5+3	5+4	5+5	5+6	5+7	5+8	5+9	5+10
6	6+0	6+1	6+2	6+3	6+4	6+5	6+6	6+7	6+8	6+9	6+10
7	7+0	7+1	7+2	7+3	7+4	7+5	7+6	7+7	7+8	7+9	7+10
8	8+0	8+1	8+2	8+3	8+4	8+5	8+6	8+7	8+8	8+9	8+10
9	9+0	9+1	9+2	9+3	9+4	9+5	9+6	9+7	9+8	9+9	9+10
10	10+0	10+1	10+2	10+3	10+4	10+5	10+6	10+7	10+8	10+9	10+10

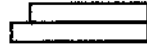
Red	Plus one (17 facts)
Blue	Plus two (15 facts)
Purple	Plus zero (21 facts)
Brown	Combinations of ten (5 facts)
Orange	Plus ten (19 facts)
Gray	Plus nine (13 facts)
Green	Doubles (5 facts)
Pink	Doubles plus one (10 facts)
Yellow	Doubles plus two (6 facts)
White	Rote (10 facts)

TM-+++-a

Blank Addition Table

PLUS	0	1	2	3	4	5	6	7	8	9	10
0	0+0	0+1	0+2	0+3	0+4	0+5	0+6	0+7	0+8	0+9	0+10
1	1+0	1+1	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+9	1+10
2	2+0	2+1	2+2	2+3	2+4	2+5	2+6	2+7	2+8	2+9	2+10
3	3+0	3+1	3+2	3+3	3+4	3+5	3+6	3+7	3+8	3+9	3+10
4	4+0	4+1	4+2	4+3	4+4	4+5	4+6	4+7	4+8	4+9	4+10
5	5+0	5+1	5+2	5+3	5+4	5+5	5+6	5+7	5+8	5+9	5+10
6	6+0	6+1	6+2	6+3	6+4	6+5	6+6	6+7	6+8	6+9	6+10
7	7+0	7+1	7+2	7+3	7+4	7+5	7+6	7+7	7+8	7+9	7+10
8	8+0	8+1	8+2	8+3	8+4	8+5	8+6	8+7	8+8	8+9	8+10
9	9+0	9+1	9+2	9+3	9+4	9+5	9+6	9+7	9+8	9+9	9+10
10	10+0	10+1	10+2	10+3	10+4	10+5	10+6	10+7	10+8	10+9	10+10

Red	Plus one (17 facts)
Blue	Plus two (15 facts)
Purple	Plus zero (21 facts)
Brown	Combinations of ten (5 facts)
Orange	Plus ten (19 facts)
Gray	Plus nine (13 facts)
Green	Doubles (5 facts)
Pink	Doubles plus one (10 facts)
Yellow	Doubles plus two (6 facts)
White	Rote (10 facts)



Plus One and Minus One

Plus One

$1 + 1 =$	$1 + 9 =$	$2 + 1 =$	$8 + 1 =$	$1 + 3 =$	$1 + 7 =$	$4 + 1 =$	$1 + 5 =$	$6 + 1 =$
$\begin{array}{r} 1 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ +1 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ +1 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ +1 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ +1 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ +1 \\ \hline \end{array}$

Minus One

$1 - 1 =$	$9 - 1 =$	$2 - 1 =$	$8 - 1 =$	$3 - 1 =$	$7 - 1 =$	$4 - 1 =$	$5 - 1 =$	$6 - 1 =$
$\begin{array}{r} 4 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ -1 \\ \hline \end{array}$

Plus or Minus One

$1 - 1 =$	$1 + 9 =$	$2 - 1 =$	$8 - 1 =$	$3 + 1 =$	$7 - 1 =$	$1 + 4 =$	$5 - 1 =$	$1 + 6 =$
$\begin{array}{r} 4 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ +1 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ +1 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ -1 \\ \hline \end{array}$

Plus Two and Minus Two **Plus Two**

$2+1=$	$6+2=$	$2+2=$	$8+2=$	$2+3=$	$2+7=$	$4+2=$	$2+5=$	$6+2=$
$\begin{array}{r} 2 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ +2 \\ \hline \end{array}$

Minus Two

$2-2=$	$9-2=$	$4-2=$	$8-2=$	$3-2=$	$7-2=$	$2-2=$	$5-2=$	$6-2=$
$\begin{array}{r} 4 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ -2 \\ \hline \end{array}$

Plus or Minus Two

$6-2=$	$2+8=$	$2-2=$	$8-2=$	$3+2=$	$7-2=$	$2+4=$	$5-2=$	$2+6=$
$\begin{array}{r} 4 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ -2 \\ \hline \end{array}$

Plus Zero and Minus Zero
Plus Zero

$2+0=$	$0+9=$	$0+1=$	$8+0=$	$0+3=$	$0+7=$	$4+0=$	$0+5=$	$6+0=$
$\begin{array}{r} 0 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ +0 \\ \hline \end{array}$	$\begin{array}{r} 0 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ +0 \\ \hline \end{array}$	$\begin{array}{r} 0 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ +0 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ +0 \\ \hline \end{array}$	$\begin{array}{r} 0 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ +0 \\ \hline \end{array}$

Minus Zero

$2-0=$	$9-0=$	$4-0=$	$8-0=$	$3-0=$	$7-0=$	$1-0=$	$5-0=$	$6-0=$
$\begin{array}{r} 4 \\ -0 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ -0 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ -0 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ -0 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ -0 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ -0 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ -0 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ -0 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ -0 \\ \hline \end{array}$

Plus or Minus Zero

$6-0=$	$0+9=$	$2-0=$	$8-0=$	$3+0=$	$7-0=$	$0+4=$	$5-0=$	$0+6=$
$\begin{array}{r} 4 \\ -0 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ -0 \\ \hline \end{array}$	$\begin{array}{r} 0 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ -0 \\ \hline \end{array}$	$\begin{array}{r} 0 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 0 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ +0 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ -0 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ -0 \\ \hline \end{array}$

Combinations of Ten

Add

2+8=	1+9=	8+2=	3+7=	4+6=	7+3=	5+5=	10+0=	6+4=
$\begin{array}{r} 6 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ +3 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ +1 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 0 \\ +10 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ +5 \\ \hline \end{array}$

Subtract

10-2=	10-9=	10-4=	10-7=	10-3=	10-5=	10-1=	10-8=	10-6=
$\begin{array}{r} 10 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -2 \\ \hline \end{array}$

Add or Subtract

10-2=	2+8=	10-3=	4+6=	5+5=	10-6=	10-8=	3+7=	10-10=
$\begin{array}{r} 10 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ +0 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ +1 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -2 \\ \hline \end{array}$

Plus Ten and Minus Ten Plus Ten

$10+1=$	$2+10=$	$10+9=$	$10+8=$	$10+3=$	$10+7=$	$4+10=$	$10+5=$	$6+10=$
$\begin{array}{r} 10 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ +10 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ +10 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ +10 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ +1 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ +10 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ +10 \\ \hline \end{array}$

Minus Ten

$12-10=$	$19-10=$	$13-10=$	$15-10=$	$11-10=$	$18-10=$	$14-10=$	$17-10=$	$16-10=$
$\begin{array}{r} 14 \\ -10 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ -10 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ -10 \\ \hline \end{array}$	$\begin{array}{r} 19 \\ -10 \\ \hline \end{array}$	$\begin{array}{r} 18 \\ -10 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -10 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ -10 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ -10 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ -10 \\ \hline \end{array}$

Plus or Minus Ten

$15-10=$	$2+10=$	$12-10=$	$18-10=$	$3+10=$	$17-10=$	$10+4=$	$15-10=$	$10+7=$
$\begin{array}{r} 12 \\ -10 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ -10 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ +10 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ -10 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ -10 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -10 \\ \hline \end{array}$

Plus Nine and Minus Nine Plus Nine

$9 + 1 =$	$2 + 9 =$	$9 + 9 =$	$9 + 8 =$	$9 + 3 =$	$9 + 7 =$	$4 + 9 =$	$9 + 5 =$	$6 + 9 =$
$\begin{array}{r} 9 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ +1 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ +9 \\ \hline \end{array}$

Minus Nine

$12 - 9 =$	$10 - 9 =$	$13 - 9 =$	$15 - 9 =$	$11 - 9 =$	$18 - 9 =$	$14 - 9 =$	$17 - 9 =$	$16 - 9 =$
$\begin{array}{r} 14 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 18 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ -9 \\ \hline \end{array}$

Plus or Minus Nine

$15 - 9 =$	$2 + 9 =$	$12 - 9 =$	$18 - 9 =$	$3 + 9 =$	$17 - 9 =$	$9 + 4 =$	$15 - 9 =$	$9 + 7 =$
$\begin{array}{r} 12 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -9 \\ \hline \end{array}$

Doubles**Add**

$1+1=$	$9+9=$	$2+2=$	$8+8=$	$3+3=$	$7+7=$	$4+4=$	$5+5=$	$6+6=$
$\begin{array}{r} 4 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ +1 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ +3 \\ \hline \end{array}$

Subtract

$4-2=$	$18-9=$	$14-7=$	$16-8=$	$6-3=$	$8-4=$	$10-5=$	$12-6=$	$2-1=$
$\begin{array}{r} 8 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 18 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ -8 \\ \hline \end{array}$

Add or Subtract

$6-3=$	$9+9=$	$4-2=$	$8-4=$	$8+8=$	$14-7=$	$4+4=$	$10-5=$	$6+6=$
$\begin{array}{r} 16 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 18 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ +3 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ -4 \\ \hline \end{array}$

Doubles Plus or Minus One

Add

$1+2=$	$9+8=$	$2+3=$	$8+7=$	$3+4=$	$6+7=$	$4+5=$	$5+6=$	$5+4=$
$\begin{array}{r} 5 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ +4 \\ \hline \end{array}$

Subtract

$5-2=$	$17-9=$	$13-7=$	$17-8=$	$7-3=$	$9-4=$	$9-5=$	$11-6=$	$3-1=$
$\begin{array}{r} 7 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ -8 \\ \hline \end{array}$

Add or Subtract

$7-3=$	$9+8=$	$5-2=$	$9-4=$	$7+8=$	$13-7=$	$4+5=$	$11-5=$	$6+7=$
$\begin{array}{r} 15 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ +3 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ -4 \\ \hline \end{array}$

Doubles Plus or Minus Two**Add**

$1+3=$	$7+9=$	$2+4=$	$8+6=$	$3+5=$	$7+5=$	$4+2=$	$5+7=$	$4+6=$
$\begin{array}{r} 6 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ +2 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ +3 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ +3 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ +5 \\ \hline \end{array}$

Subtract

$8-3=$	$14-6=$	$12-7=$	$10-4=$	$8-5=$	$10-6=$	$12-5=$	$14-8=$	$16-7=$
$\begin{array}{r} 16 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ -4 \\ \hline \end{array}$

Add or Subtract

$10-4=$	$9+7=$	$14-6=$	$12-5=$	$8+6=$	$14-8=$	$4+6=$	$8-5=$	$6+4=$
$\begin{array}{r} 12 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ +3 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -4 \\ \hline \end{array}$

Rote**Add**

$6+3=$	$7+4=$	$8+3=$	$8+4=$	$8+5=$	$3+6=$	$4+7=$	$3+8=$	$4+8=$
$\begin{array}{r} 5 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ +7 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ +3 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ +3 \\ \hline \end{array}$

Subtract

$13-5=$	$11-4=$	$9-6=$	$12-8=$	$9-3=$	$13-5=$	$11-7=$	$12-4=$	$13-8=$
$\begin{array}{r} 11 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ -8 \\ \hline \end{array}$

Add or Subtract

$9-3=$	$8+5=$	$12-4=$	$11-7=$	$8+4=$	$11-3=$	$4+7=$	$13-5=$	$6+8=$
$\begin{array}{r} 13 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ +3 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ -6 \\ \hline \end{array}$

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Teaching addition and subtraction

Handout 6

Hundreds	Tens	Ones

Addition/Subtraction Recording Forms

(Adapted from those created by John Van de Walle)

T	O
<div style="border: 1px solid black; width: 40px; height: 40px; margin: 10px;"></div>	

H	T	O

T	O
<div style="border: 1px solid black; width: 40px; height: 40px; margin: 10px;"></div>	

H	T	O

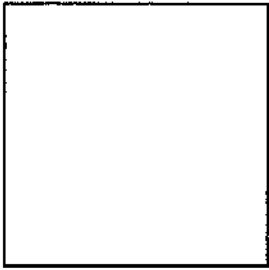
T	O
<div style="border: 1px solid black; width: 40px; height: 40px; margin: 10px;"></div>	

H	T	O

Cognitively Guided Instruction Problem Types

Problem type	Result unknown	Change unknown	Start unknown
Join	Raquel had 5 books. Jaime gave her 2 more books. How many does Raquel have now?	The table has 4 children. How many more children can come to the table to have 6 children there?	Raquel had some crayons. Jaime gave her 2 more crayons. Now she has 7 crayons. How many did she have to start with?
Separate	Eight children were sitting on the rug. Three children go back to their desks. How many children remain on the rug?	Six children were in line to get a drink. Some finished and went back to their seats. Now there are four in line. How many finished?	Raquel had some books. She gave 5 to Jaime. Now she has 2 books left. How many books did Raquel have to start with?
Compare	Jaime has 5 books. Raquel has 2 more than Jaime. How many books does Raquel have?	Raquel has 7 books. Jaime has 5 books. How many more books does Raquel have than Jaime?	Raquel has 7 books. She has 5 more books than Jaime does. How many books does Jaime have?
Part-part-whole	Raquel has 5 big books and 2 small books. How many books does she have?		Raquel has 7 books. Five are big books and the rest are small books. How many small books does she have?

Source: Carpenter, Thomas; Fennema, Elizabeth; *Children's Mathematics Cognitively Guided Instruction*, 1999.



1 2 3

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Teaching addition and subtraction

Overhead 5

Hundreds	Tens	Ones

Addition/Subtraction Recording Forms

(Adapted from those created by John Van de Walle)

T	O
<div style="border: 1px solid black; width: 40px; height: 40px; margin: 5px;"></div>	

H	T	O

T	O
<div style="border: 1px solid black; width: 40px; height: 40px; margin: 5px;"></div>	

H	T	O

T	O
<div style="border: 1px solid black; width: 40px; height: 40px; margin: 5px;"></div>	

H	T	O

